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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/628,253

07/29/2003

Gi Heon Kim

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12/11/2006

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EXAMINER

SASTRI, SATYA B

ART UNIT

PAPER NUMBER

1713

DATE MAILED: 12/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/628,253

Applicant(s)

KIM ET AL.

Examiner

Satya B. Sastri

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-14 is/are pending in the application.
- 4a) Of the above claim(s) 7-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-6, 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 2-14 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to amendment filed on October 2, 2006. Claims 2-14 are now pending in the application with claims 7-12 being withdrawn from further consideration as being drawn to a non-elected invention.

2. In view of the amendment, all previous rejections are withdrawn *except* the rejections of *claims 4-6* under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention which are sustained. New rejections are presented in this office action. Furthermore, newly submitted claim 14 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claim 14 concerns an article comprising the composition of claim 13 where as claim 13 concerns a material comprising poly(pentaerythritol). Inventions of claim 13 and claim 14 are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product, and the species are patentably distinct (MPEP § 806.05(j)). In the instant case, the intermediate product is deemed to be useful as coating compositions and the inventions are deemed patentably distinct because there is nothing on this record to show them to be obvious variants.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution

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on the merits. Accordingly, claim 14 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Previously Cited Statutes

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 13, 2, 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Russel (US 4,371,566) or Cohen et al. (US 4,414,278) or JP 01004605 A (DERWENT ABSTRACT).

Prior art to Russel discloses an actinic radiation curable coating composition comprising a pentaerythritol-based polyacrylate or polymethacrylate such as pentaerthritol tetraacrylate, a vinyl chloride-vinyl acetate-containing polymer, which may be applied to a substrate and subsequently, cured by exposure to radiation (abstract). The cured product in the prior art must include a poly(pentaerythritol-based polyacrylate). As a substrate, a variety of polymeric materials are listed and the final coated product may find use in electronic devices (column 3, lines 34-46).

Cohen et al. disclose polymeric beads comprising homopolymers or copolymers of tri and tetra (meth)acrylate monomers or copolymers thereof (abstract). Disclosed homopolymers include those based on pentaerythritol triacrylate, pentaerythritol tetraacrylate pentaerythritol tetramethacrylate (column 2, lines 27-36, claims 1, 2, 5, 6).

JP 01004605 discloses materials comprising (a) copolymers of diallyl phthalate or diallyl terephthalate (b) poly(meth)acrylates selected from poly(meth)acrylate of dipentaerythritol

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containing at least 4 (meth)acryloyl groups in the molecule and poly(meth)acrylate of dipentaerythritol containing at least 3 (meth)acryloyl groups in the molecule and (c) fillers. The molding materials are used for the manufacture of electric and electronic parts (abstract).

The prior art cited to Russel et al. and Cohen et al. above disclose materials comprising homopolymers of monomer with formula II of instant claim 13. JP 01004605 discloses material comprising homopolymer with formula I of the instant invention. Thus, instant claims are anticipated by the prior art.

With regard to the limitation, "for thin film encapsulating" in the claim language, it is the examiner's position that is an intended use of the material comprising poly(pentaerythritol-based polyacrylate). With respect to the instant claims, the intended use language must result in a structural difference to patentably distinguish over the prior art. If the prior art structure or composition is capable of performing the intended use, then it meets the claim. MPEP 2112.02.

5. **Claims 4-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Russel (US 4,371,566). in view of Chung et al. (US 4,478,876).

Prior art to Russel is presented above in paragraph 4 and is incorporated herein by reference.

The difference between the prior art and the instant invention is that the prior art does not explicitly teach the inclusion of silica gel or zeolite in the coating compositions.

Secondary reference to Chung discloses process of coating with a abrasion resistant curable composition comprising silicon dioxide in the form of silica (silica). A variety of polyfunctional acrylic monomers are cured by radiation curing (table 1). Coating compositions

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comprising colloidal silica with specific polyfunctional acrylic monomers provide durable UV cured coatings which adhere tenaciously to plastic substrates (column 4, lines 15-30). In light of such benefit, it would have been obvious to one of ordinary skill in the art at the time the invention was made prepare the aqueous compositions of Lions et al. by miniemulsion process and thereby obtain the instant invention.

It is noted that the functional equivalence of colloidal silica and silica gel is alluded to in the prior art disclosure (column 1, lines 65-68).

Response to Arguments

6. Applicant's argument with regard to claims 4-6 as being indefinite is not found persuasive. While the specification does exemplify alkaline metal oxides as moisture absorbents, the instant claims do not recite the same and thus change the scope of the claim. The claims are read in light of the specification but are also given the broadest possible interpretation and limitations from the specifications are not read into the claims.

Applicant's remarks pertaining to Russel et al. as prior art is not found persuasive because the prior art composition, when cured would include poly(pentaerythritol-based polyacrylate as recited in instant claims.

Action Is Final

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7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

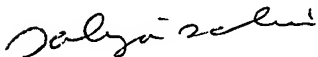
Future Correspondence

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satya Sastri whose telephone number is 571-272-1112.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communications. The unofficial direct fax phone number to the Examiner's desk is 571-273-1112.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SATYA SASTRI

December 6, 2006



DAVID W. WU
SUPERVISORY PATENT EXAMINER
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